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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DOWELL, PAUL THOMAS

ART UNIT PAPER NUMBER

1632

DATE MAILED: 03/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/500,428

Applicant(s)

SUGARU ET AL.

Examiner

Paul Dowell

Art Unit

1632

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) \_\_\_\_\_ is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☒ Claim(s) 1-40 are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

Claims 1-40 are pending.

The response of 2/16/2006 to the restriction requirement of 1/20/2006 is acknowledged. However, upon further consideration, Examiner has determined additional restriction requirements. Therefore, the restriction requirement of 1/20/2006 is withdrawn and the following restriction requirement is put forth.

### ***Election/Restrictions***

Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 2, 4, 6, drawn to a therapeutic agent for cibophobia comprising a substance that suppresses expression or function of a polypeptide, said polypeptide consisting of an amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4, wherein said therapeutic agent comprises:

(a) a nucleic acid consisting of a base sequence complementary to a base sequence shown in SEQ ID NO:1 or SEQ ID NO: 3; or

**(b)** a nucleic acid consisting of a base sequence capable of hybridizing with a nucleic acid consisting of a base sequence shown in SEQ ID NO:1 or SEQ ID NO:3,

and which is capable of inhibiting translation into a polypeptide encoded by the base sequence shown in SEQ ID NO:1 or SEQ ID NO:3 in a hybridized state; and an expression vector comprising the nucleic acid of **(a)** or **(b)**.

Group II, claim(s) 2, 4, 6, 7, drawn to a therapeutic agent for cibophobia comprising a substance that suppresses expression or function of a polypeptide, said polypeptide consisting of an amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4, wherein said therapeutic agent comprises a host cell transfected with an expression vector encoding:

**(a)** a nucleic acid consisting of a base sequence complementary to a base sequence shown in SEQ ID NO:1 or SEQ ID NO: 3; or

**(b)** a nucleic acid consisting of a base sequence capable of hybridizing with a nucleic acid consisting of a base sequence shown in SEQ ID NO:1 or SEQ ID NO:3,

and which is capable of inhibiting translation into a polypeptide encoded by the base sequence shown in SEQ ID NO:1 or SEQ ID NO:3 in a hybridized state. Claims 2, 4, 6 are included in group II to the extent that they read on an expression vector encoding **(a)** or **(b)**, the vector being transfected into a host cell and the transfected host cell being the therapeutic agent of group II.

Group III, claim(s) 3, 5, drawn to a therapeutic agent for cibophobia comprising a substance that suppresses expression or function of a polypeptide, said polypeptide consisting of an amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4, wherein said therapeutic agent comprises a substance which shows a specific affinity for a polypeptide, said polypeptide consisting of an amino acid sequence shown in SEQ ID NO:2 or SEQ ID NO:4, and which inhibits expression of said polypeptide.

Claim 1 link(s) the inventions of groups I-III. The restriction requirement among the linked inventions is subject to the nonallowance of the linking claim(s), claim 1. Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise including all the limitations of the allowable linking claim(s) will be entitled to examination in the instant application. Applicant(s) are advised that if any such claim(s) depending from or including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Upon election of **groups I or II**, Applicant's are required to further elect one nucleic acid from the group consisting of SEQ ID NO:1 (encoding the polypeptide of SEQ ID NO:2) and SEQ ID NO:3 (encoding the polypeptide of SEQ ID NO:4). Upon election of **group III**, Applicant's are required to further elect one polypeptide from the group consisting of SEQ ID NO:2 and SEQ ID NO:4. It is noted that this is a restriction requirement and not a species election since the nucleic acids of SEQ ID NO:1 and 3 and the polypeptides of SEQ ID NO:2 and 4 have distinct structure.

Group IV, claim(s) 9, 12, drawn to a therapeutic agent for a lifestyle-related disease comprising a substance that enhances expression or function of a polypeptide, said polypeptide consisting of an amino acid sequence shown in SEQ ID NO:2 or SEQ ID NO:4., wherein said therapeutic agent comprises:

- (a) a polypeptide consisting of an amino acid sequence shown in SEQ ID NO:2 or SEQ ID NO:4,
- (b) a polypeptide consisting of an amino acid shown in SEQ ID NO:2 or SEQ ID NO:4; wherein one or more amino acids of the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4 have been substituted, deleted, inserted added or modified; wherein said polypeptide shows a ligand-receptor interaction of the same level as the polypeptide of (a); wherein said polypeptide is coupled with a G protein  $\alpha$  subunit and when coupled with said G protein  $\alpha$  subunit shows an activity to promote a GDP/GTP exchange reaction of said subunit, or
- (c) a polypeptide which is an ortholog of the polypeptide of (a).

Group V, claim(s) 9, 10, 12, drawn to a therapeutic agent for a lifestyle-related disease comprising a substance that enhances expression or function of a polypeptide, said polypeptide consisting of an amino acid sequence shown in SEQ ID NO:2 or SEQ ID NO:4., wherein said therapeutic agent comprises an expression vector encoding:

**(a)** a polypeptide consisting of an amino acid sequence shown in SEQ ID NO:2 or SEQ ID NO:4,

**(b)** a polypeptide consisting of an amino acid shown in SEQ ID NO:2 or SEQ ID NO:4; wherein one or more amino acids of the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4 have been substituted, deleted, inserted added or modified; wherein said polypeptide shows a ligand-receptor interaction of the same level as the polypeptide of (a); wherein said polypeptide is coupled with a G protein  $\alpha$  subunit and when coupled with said G protein  $\alpha$  subunit shows an activity to promote a GDP/GTP exchange reaction of said subunit, or

**(c)** a polypeptide which is an ortholog of the polypeptide of (a).

Claim 9 is included in group V to the extent that claim 9 reads on a polypeptide of **(a)**, **(b)** or **(c)** encoded by an expression vector, the expression vector being the therapeutic agent of group V.

Group VI, claim(s) 9, 10, 11, 12, drawn to a therapeutic agent for a lifestyle-related disease comprising a substance that enhances expression or function of a polypeptide, said polypeptide consisting of an amino acid sequence shown in SEQ ID

NO:2 or SEQ ID NO:4., wherein said therapeutic agent comprises a host cell transfected with an expression vector encoding:

- (a) a polypeptide consisting of an amino acid sequence shown in SEQ ID NO:2 or SEQ ID NO:4,
- (b) a polypeptide consisting of an amino acid shown in SEQ ID NO:2 or SEQ ID NO:4; wherein one or more amino acids of the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4 have been substituted, deleted, inserted added or modified; wherein said polypeptide shows a ligand-receptor interaction of the same level as the polypeptide of (a); wherein said polypeptide is coupled with a G protein  $\alpha$  subunit and when coupled with said G protein  $\alpha$  subunit shows an activity to promote a GDP/GTP exchange reaction of said subunit, or
- (c) a polypeptide which is an ortholog of the polypeptide of (a).

Claims 9 and 10 are included in group VI to the extent that they read on a polypeptide of (a), (b) or (c) encoded by an expression vector, the vector being transfected into a host cell and the transfected host cell being the therapeutic agent of group VI.

Claim 8 link(s) the inventions of groups IV-VI. The restriction requirement among the linked inventions is subject to the nonallowance of the linking claim(s), claim 8. Upon the allowance of the linking claim(s), the restriction requirement as to the linked inventions shall be withdrawn and any claim(s) depending from or otherwise including all the limitations of the allowable linking claim(s) will be entitled to examination in the instant application. Applicant(s) are advised that if any such claim(s) depending from or



including all the limitations of the allowable linking claim(s) is/are presented in a continuation or divisional application, the claims of the continuation or divisional application may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 44 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01.

Upon election of **groups IV, V or VI**, Applicant's are required to further elect one polypeptide from the group consisting of SEQ ID NO:2 and SEQ ID NO:4. It is noted that this is a restriction requirement and not a species election since the polypeptides of SEQ ID NO:2 and 4 have distinct structure.

Group VII, claim(s) 13-17, 24-30, drawn to a screening system comprising the recited components.

Group VIII, claim(s) 18-21, 35, drawn to a screening method for a substance having a therapeutic activity against cibophobia or a lifestyle-related disease comprising the recited steps.

Group IX, claim(s) 31-34, 38, drawn to a screening method for a ligand for a polypeptide of any of the following (a) to (c) comprising the recited steps:

(a) a polypeptide consisting of an amino acid sequence shown in SEQ ID NO:2 or SEQ ID NO:4,

(b) a polypeptide consisting of an amino acid shown in SEQ ID NO:2 or SEQ ID NO:4; wherein one or more amino acids of the amino acid sequence of SEQ ID NO:2 or SEQ ID NO:4 have been substituted, deleted, inserted added or modified; wherein said polypeptide shows a ligand-receptor interaction of the same level as the polypeptide of (a); wherein said polypeptide is coupled with a G protein  $\alpha$  subunit and when coupled with said G protein  $\alpha$  subunit shows an activity to promote a GDP/GTP exchange reaction of said subunit, or

(c) a polypeptide which is an ortholog of the polypeptide of (a).

Group X, claim(s) 22, 23, drawn to a screening method for a substance comprising the recited steps.

Group XI, claim(s) 36, 37, drawn to a therapeutic agent obtained by the screening method of claim 18 or 19.

Group XII, claim(s) 39, 40, drawn to a therapeutic agent obtained by the screening method of claim 34.

Upon election of **groups VII, VIII, IX, X, XI or XII**, Applicant's are required to further elect one one polypeptide from the group consisting of SEQ ID NO:2 and SEQ

ID NO:4. It is noted that this is a restriction requirement and not a species election since the polypeptides of SEQ ID NO:2 and 4 have distinct structure.

According to PCT Rule 13.2, unity of invention exists only when the shared same or corresponding technical feature is a contribution over the prior art. In the instant case, the technical feature appears to be: **(a)** a nucleic acid consisting of a base sequence complementary to a base sequence shown in SEQ ID NO:1 or SEQ ID NO: 3; or **(b)** a nucleic acid consisting of a base sequence capable of hybridizing with a nucleic acid consisting of a base sequence shown in SEQ ID NO:1 or SEQ ID NO:3. Said technical feature does not link the inventions of groups I-XII. For example, group I is drawn to a therapeutic agent comprising **(a)** a nucleic acid consisting of a base sequence complementary to a base sequence shown in SEQ ID NO:1 or SEQ ID NO: 3; or **(b)** a nucleic acid consisting of a base sequence capable of hybridizing with a nucleic acid consisting of a base sequence shown in SEQ ID NO:1 or SEQ ID NO:3; while group II is drawn to a therapeutic agent comprising a host cell transfected with an expression vector encoding **(a)** a nucleic acid consisting of a base sequence complementary to a base sequence shown in SEQ ID NO:1 or SEQ ID NO: 3; or **(b)** a nucleic acid consisting of a base sequence capable of hybridizing with a nucleic acid consisting of a base sequence shown in SEQ ID NO:1 or SEQ ID NO:3. Therapeutic agents comprising nucleic acids are structurally and functionally distinct from therapeutetic agents comprising host cells transfected with nucleic acids. Therefore, there does not appear to be a shared same or corresponding technical feature.

Furthermore, while groups I-III are related in being drawn to therapeutic agents that suppress expression or function of a polypeptide of SEQ ID NO:2/4, they are patentably distinct each from the other because groups I-III are drawn to therapeutic agents that have distinct structure and function. For example, group I is drawn to a nucleic acid; while group II is drawn to a host cell transfected with a nucleic acid; while group III is drawn to a substance (e.g. an antibody) that has affinity for a polypeptide of SEQ ID NO:2/4. Nucleic acids, host cells transfected with a nucleic acid and antibodies have distinct structure and function each from the other and therefore groups I-III are distinct.

Furthermore, while groups IV-VI are related in being drawn to therapeutic agents that enhance expression or function of a polypeptide of SEQ ID NO:2/4, they are patentably distinct each from the other because groups IV-VI are drawn to therapeutic agents that have distinct structure and function. For example, group IV is drawn to a polypeptide; while group V is drawn to a nucleic acid; while group VI is drawn to a host cell transfected with a nucleic acid. Polypeptides, nucleic acids and host cells transfected with a nucleic acid have distinct structure and function each from the other and therefore groups IV-VI are distinct.

Furthermore, while groups I-III and groups IV-VI are related in being drawn to therapeutic agents, they are patentably distinct each from the other because they are drawn to therapeutic agents having opposing utilities. Specifically, groups I-III are drawn to therapeutic agents that suppress expression or function of a polypeptide of SEQ ID NO:2/4 while groups IV-VI are drawn to therapeutic agents that enhance expression or

function of a polypeptide of SEQ ID NO:2/4. Therapeutic agents that have opposing utilities are distinct and therefore groups I-III and groups IV-VI are distinct each from the other.

Furthermore, while groups I-VI are related to group VII in being drawn to therapeutic agents for cibophobia or a lifestyle-related disease and a screening system for a substance having a therapeutic activity against cibophobia or a lifestyle-related disease, respectively, they are patentably distinct each from the other because the agents of groups I-VI have different utilities from the screening system of group VII. For example, groups I-VI are drawn to therapeutic agents to be used to treat cibophobia or a lifestyle-related disease while group VII is drawn to a screening system to identify the agents of groups I-VI. Therefore, the inventions of groups I-VII are distinct each from the other.

Furthermore, group VII is related to groups VIII and IX as product (group VII) and process of use (groups VIII and IX). The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case, the screening system of group VII can be used in the materially different screening methods of groups VIII and IX.

Furthermore, the methods of groups VIII, IX and X are patentably distinct each from the other because they are drawn to methods with distinct goals and/or distinct starting materials. For example, group VIII is drawn to a screening method for a

substance having a therapeutic activity against cibophobia or a lifestyle-related disease, while group IX is drawn to a screening method for a ligand for a polypeptide of any of said (a) to (c) and as such the goals of said methods are distinct. Further, while groups VIII and IX are drawn to methods that share the same starting materials, group X is drawn to a method requiring a starting material that is distinct from the starting materials required for the methods of group VIII and IX (i.e. the method of group X requires a polypeptide comprising a receptor-binding region of the G protein alpha subunit as identified by the method of claim 20 or 21).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Dowell whose telephone number is (571)272-5540. The examiner can normally be reached on M-F, 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ram R. Shukla can be reached on (571)272-0735. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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PRIMARY EXAMINER